

DMFT (Decayed, Missing, Filled, Teeth) Oral Health Index in Sweets and Cable Industry Workers

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Abstract

The most important factor in evaluating dental health is DMFT (Decayed, Missing, Filled, Teeth). This research was conducted to compare DMFT index in the workers of sweets and cable factories of Shahrood (Moghan), a small city near 300 km east of Tehran. All the 127 production line workers of cable factory and 124 workers of sweets factory who had the pre-determined criteria were selected. A questionnaire was filled out and dental status was recorded for each one. After analyzing the data by SPSS soft ware the results were as follows: Mean and SD of DMFT in sweets factory: 12.59± 6.5; in cable factory: 9.7± 5.4; and Caries free in both factories was less than 1% which was neglectable. Mean and SD of DMFT in 35-44 yr age group in sweet and cable factory was 11.6± 6.05, and 10.8± 6.5, respectively. With Anova two-way analysis in two groups and with $P < 0/000$, there was a significant correlation between type of work and DMFT which proved the hypothesis. Accordingly, consumption of sweets and neglecting oral hygiene can be considered of great importance in increasing DMFT in the workers of sweets factory compared to the cable factory.

Keywords: *DMFT, Workers, Sweets industry, Cable Factory, Iran*

Introduction

People health and consequently the health of society have great influence on development and abilities of the community. Long living accompanied by health is not possible without cooperation of different organs. The function of each part has some effects on others. Oral cavity is one of the main organs of the body, which has great effect on people health and as a consequence, the health of the society. As a result, dental health indexes are not only indicators of health status but also can be hallmarks of socio-economic condition. One of these indexes is DMFT (Decayed, Missing, Filled, Teeth) which is used as oral health evaluation criteria in most researches (1-3).

The association between type of work and dental findings and the relevance of sugar dust as

an occupational hazard to dental health has been studied by many researchers (4- 9).

The level and effect of sweets consumption by the population and different groups of the society have been investigated in some studies. High prevalence of dental caries among workers who had easy access to sugar cane (sugar cane cutters) has been shown in some researches (10, 11).

Consequently, for recognizing and evaluating the major risk factors associated with dental caries, this research was conducted to compare DMFT in workers of sweets and cable factories of Shadrood (Moghan).

Materials and Methods

All of the 124 workers of Shahrood sweets factory (located near 300 km east of Tehran) who

had the inclusion criteria consented to be examined and were included in the study. The inclusion criteria were having at least 5 yr or more work experience on production line, 18 yr of age or more and male sex. The control group consisted of a group of 127 production line workers from Shahrood cable factory, which is located in the same geographic area 2 km away from it. Data were gathered by clinical investigation, filling questionnaire and interviewing with the employees. Fourteen workers in sweets factory and 5 workers in cable factory were edentulous and were not included in the study.

All of the examinations were done in worker's health house in suitable lighting with dental mirror, with the help of a physician.

The teeth, which were not included in this index

were nonerupted, congenitally missing, supernumerary and the teeth which were filled for causes other than decay (like trauma, esthetic or as abutment). The data were analyzed by ANOVA two-way analysis.

Results

The mean age of workers in sweets and cable factory was 40.9 and 34.7yr, respectively. Mean and SD for DMFT were 12.5 ± 6.5 in sweets factory and 9.7 ± 5.4 in cable factory. The results indicate that the mean DMFT values recorded for the sweets industry workers were significantly higher than that of cable factory ($P < 0.000$). DMFT indexes are illustrated according to age group, frequency of tooth brushing, smoking and work experience (Figs. 1-6).

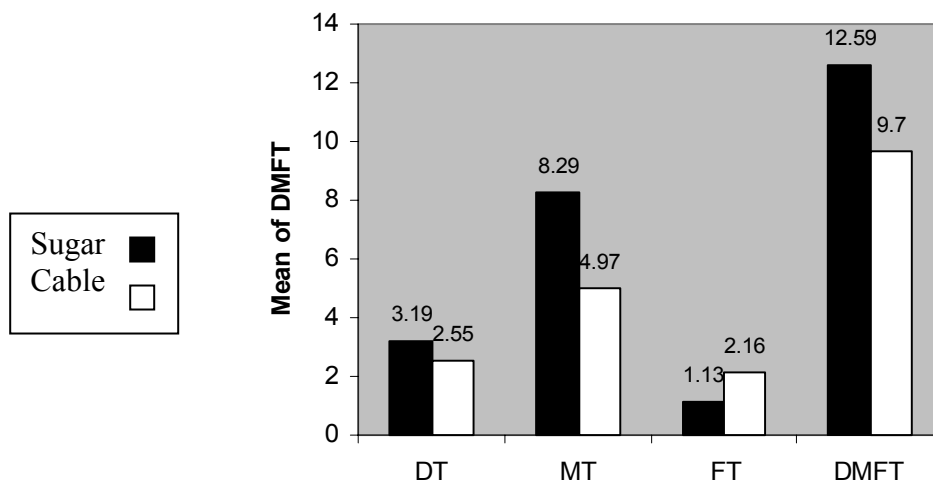


Fig. 1: Comparison of DMFT indexes between sugar and cable factory

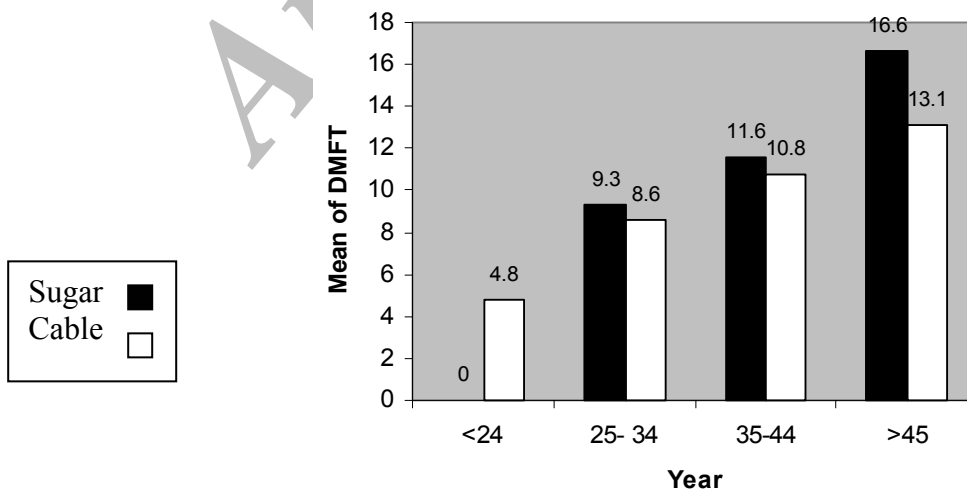


Fig. 2: Comparison of DMFT indexes according to age group between sugar and cable factories

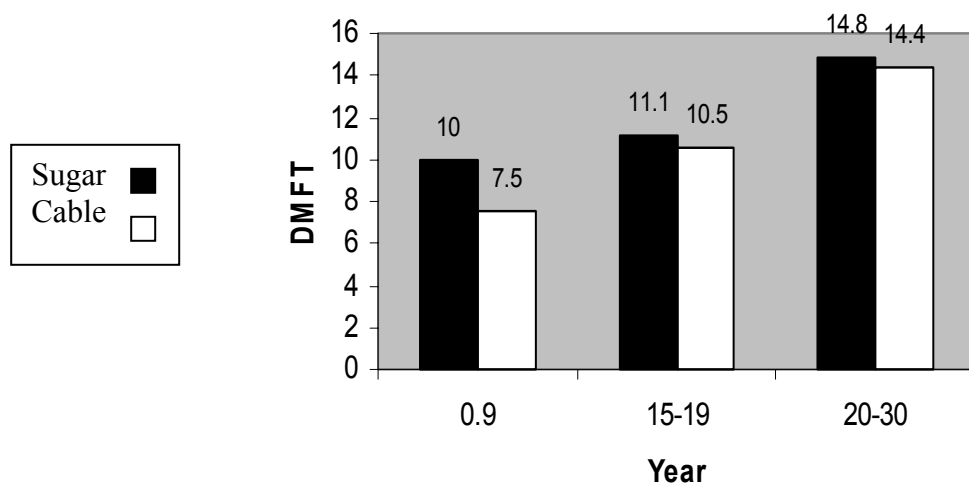


Fig. 3: Comparison of DMFT indexes according to work experience between sugar and cable factories

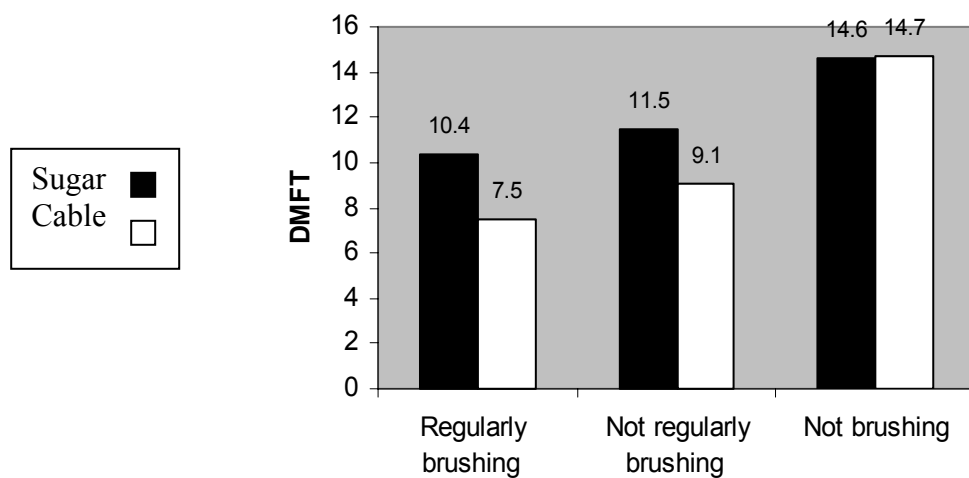


Fig. 4: Comparison of DMFT indexes according to tooth brushing between sugar and cable factories

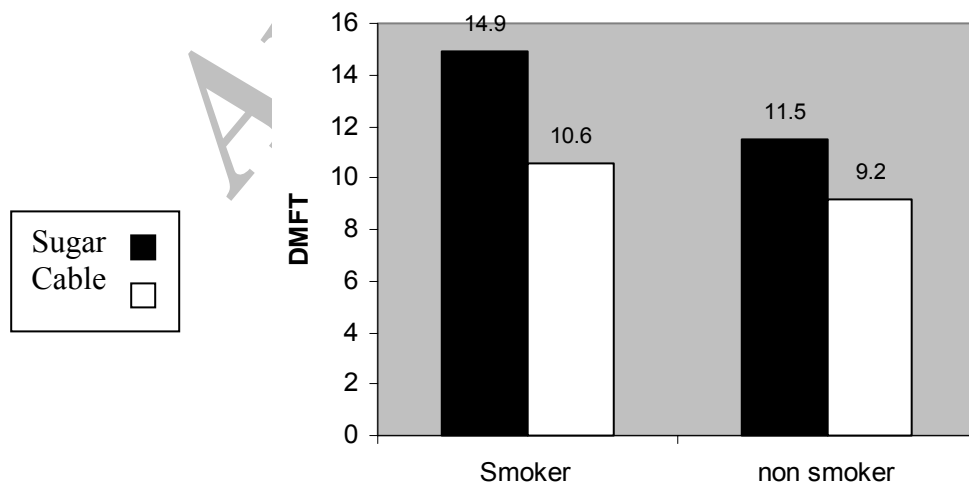


Fig. 5: Comparison of DMFT indexes according to smoking between sugar and cable factories

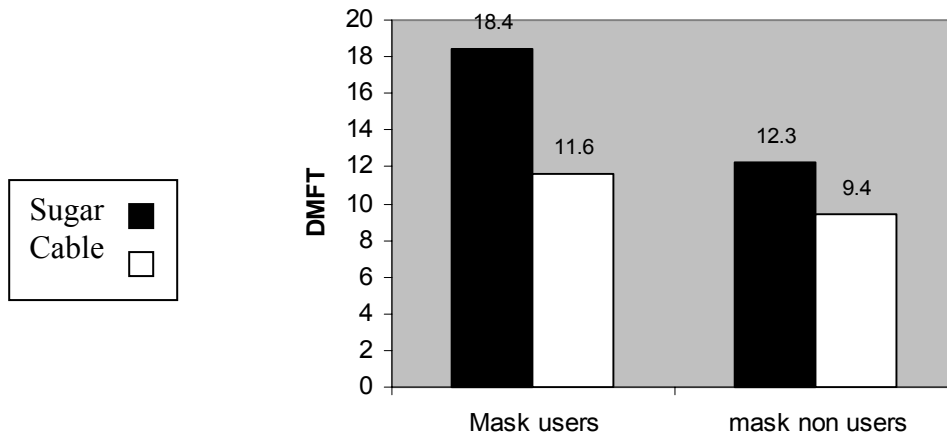


Fig. 6: Comparison of DMFT indexes according to use of mask at work between sugar and cable factories

Discussion

The aim of this study was to compare DMFT of workers in two factories. 50% of the studied population was between 35-44 yr old. This age group has great importance in evaluating DMFT according to WHO (12-14).

The results showed that M (missing) was the highest and F (filled) was the lowest index among all the workers. This fact reflects neglect of oral hygiene and lack of attention to treating decayed teeth. Caries free was less than 1% in both factories, which again confirmed poor oral hygiene and low socio- economic status.

The effect of water fluoridation with other environmental factors and the socioeconomic status seems to be similar in both groups as the workers lived in the same geographic area.

Anais et al. compared DMFT of workers from sweets and textile factories and showed that workers from sweets factory had significantly higher values than control group (2). They also found that mean DMFT significantly increased in relation to the duration of exposure to the effect of carbohydrates.

The relationship between type of work and dental findings and the relevance of sugar dust as an occupational hazard to dental health has been studied by some other authors (4, 5, 7, 8). Another study showed that workers of confectionary industries had more decayed teeth (5).

The results of this study showed that there was an increase in caries experience with increase in duration of employment which confirmed the findings of a study in Bangalore city (7).

Because sugar dust concentrations were below accepted limits in the sweets factory, the results did not seem to support the hypothesis that airborne sugar was an occupational dental health hazard. This was in contrast to another study that high degrees of sweet dust could be a risk factor for dental health (2).

The effect of good oral hygiene on DMFT was quite clear in this study as those workers who regularly brushed had lower DMFT in comparison with those who did not brush regularly. In addition, DMFT was higher in smokers, which meant that those who neglected their general health also neglected dental health.

The higher mean DMFT in sweets factory might be higher consumption of sweets in this group and other factors such as higher mean age.

The results of this study emphasize the issue of oral hygiene improvement of workers and consider consumption of sweets as an important factor in increasing DMFT and compromising dental health.

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